

CLAIMS

1. A latent curing agent for an epoxy resin comprising a curing agent (A) for an epoxy resin and a resin coating the curing agent (A) for an epoxy resin, characterized in that

the resin coating the curing agent (A) for an epoxy resin comprises a structure in which two structures (structures (1)) are mutually bonded via one urea bond, the structures (1) each obtained by bonding three nitrogen atoms at a branching point via a linear or cyclic aliphatic hydrocarbon group which may optionally contain an ester structure; and at least one of the nitrogen atoms of each of the structures (1) is incorporated in the urea bond.

2. The latent curing agent for an epoxy resin according to claim 1, characterized in that

the resin coating the curing agent (A) for an epoxy resin further comprises an aromatic hydrocarbon group (2) bonded to not less than two nitrogen atoms; and

the ratio of the aromatic hydrocarbon group (2) bonded to not less than two nitrogen atoms to the total amount of the structures (1) and the aromatic hydrocarbon group (2) bonded to not less than two nitrogen atoms is between 0.5% by mass and 95% by mass.

3. The latent curing agent for an epoxy resin according to claim 2, characterized in that

the ratio of the aromatic hydrocarbon group

(2) bonded to not less than two nitrogen atoms to the total amount of the structures (1) and the aromatic hydrocarbon group (2) bonded to not less than two nitrogen atoms is between 1% by mass and 80% by mass.

4. A latent curing agent for an epoxy resin comprising

a curing agent (A) for an epoxy resin; and
a resin coating the latent curing agent (A) for an epoxy resin and obtained by the reaction between an isocyanate component (b1), which has not less than three isocyanate groups and contains low molecular weight polyisocyanate having no molecular weight distribution in an amount of not less than 20% by mass, and an active hydrogen compound (b2).

5. The latent curing agent for an epoxy resin according to claim 4, characterized in that the resin coating the latent curing agent (A) for an epoxy resin has a bonding group (x) absorbing infrared ray having a wavelength of 1630 cm^{-1} to 1680 cm^{-1} .

6. The latent curing agent for an epoxy resin according to claim 4 or 5, characterized in that the isocyanate component (b1) contains 20% by mass to 99% by mass of the low molecular weight polyisocyanate compound and 1% by mass to 80% by mass of other isocyanate compounds.

7. The latent curing agent for an epoxy resin according to any one of claims 1 to 6, characterized in that the curing agent (A) for an epoxy resin is an

amine curing agent.

8. The latent curing agent for an epoxy resin according to any one of claims 1 to 7, characterized in that the resin coating the curing agent (A) for an epoxy resin has a glass transition temperature (T_g) of 80°C or less.

9. A core-shell type curing agent for an epoxy resin comprising the latent curing agent for an epoxy resin according to any one of claims 1 to 8 as a core and a reaction product between the curing agent (A) for an epoxy resin and an epoxy resin (C) as a shell.

10. A master batch type curing agent for an epoxy resin comprising 100 parts by mass of the latent curing agent for an epoxy resin according to any one of claims 1 to 8 or the core-shell type curing agent according to claim 6 and 10 to 50,000 parts by mass of the epoxy resin (C).

11. A one-component epoxy resin composition comprising, as main components,

100 parts by mass of an epoxy resin (D); and

0.1 to 1,000 parts by mass of the latent curing agent for an epoxy resin according to any one of claims 1 to 8, the core-shell type curing agent for an epoxy resin according to claim 9, or the master batch type curing agent for an epoxy resin according to claim 10.

12. A one-component epoxy resin composition comprising, as main components,

100 parts by mass of an epoxy resin (D);

1 to 200 parts by mass of at least one curing agent (E) selected from the group consisting of acid anhydrides, phenols, hydrazides, and guanidines; and

0.1 to 200 parts by mass of the latent curing agent for an epoxy resin according to any one of claims 1 to 8, the core-shell type curing agent for an epoxy resin according to claim 9, or the master batch type curing agent for an epoxy resin according to claim 10.

13. An anisotropic conductive material comprising the one-component epoxy resin composition according to claim 11 or 12.

14. A conductive adhesive material comprising the one-component epoxy resin composition according to claim 11 or 12.

15. An insulating adhesive material comprising the one-component epoxy resin composition according to claim 11 or 12.

16. A sealing material comprising the one-component epoxy resin composition according to claim 11 or 12.

17. A method of manufacturing a latent curing agent for an epoxy resin comprising coating a curing agent (A) for an epoxy resin with a film that is formed by reacting an isocyanate component (b1), which has not less than three isocyanate groups and contains low molecular weight polyisocyanate compound having no molecular weight distribution in an amount of 20% by

mass or more, with an active hydrogen compound (b2).